

REMARKS

In this Preliminary Amendment, the specification has been amended to correct a typographical error noted in an application filing date in the cross-references to related applications. However, no references are being added to or deleted from the benefit claims under 35 U.S.C. §119 or §120. Accordingly, it is respectfully believed that this amendment does not constitute the making of a benefit claim under 37 CFR 1.78(a)(2) and (a)(5), and therefore no petition or fee is required.

The specification also has been amended to address various issues noted during the preparation of formal drawings in this application. For example, the specification has been amended in various places to address inconsistent or duplicated reference characters that appear in the drawings. Additionally, the discussion in the specification on page 45 regarding Fig. 16B has been amended to specifically refer to exemplary dimensions originally indicated on the informal drawings as filed. No new matter is added to the application by these amendments.

An early and favorable action is hereby earnestly solicited. If any questions arise in connection with this Preliminary Amendment, the Examiner is respectfully requested to contact the undersigned at the number listed below.

Respectfully submitted,

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Docket No. C01104/70089

Dated: August 28, 2002

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**  
**IN THE SPECIFICATION**

The paragraph beginning at line 8 on page 2 has been amended as follows:

--Serial No. 09/870,418, filed May [31] 30, 2001, entitled METHODS AND APPARATUS FOR AUTHORIZING AND PLAYING BACK LIGHTING SEQUENCES;--

The paragraph beginning at line 9 on page 19 has been amended as follows:

-- For example, according to one aspect of this embodiment, the controller 34 adapted to receive the mode and options signals may be controlled using a remote user interface 56 having two or more selectors 60A and 60B, as shown for example in Fig. 1. In one aspect, a first selector 60A of the remote user interface 56, when activated by a user, would generate a "mode" signal, whereas a second selector 60B would generate an "options" signal. In Fig. 1, an output of the remote user interface 56 is shown generally as the signal 64; however, it should be appreciated that, according to one embodiment, the signal 64 output from the remote user interface 56 may include a first output signal 64<sub>1</sub> (corresponding to the "options" signal [461] 46<sub>1</sub> input to the controller 34) and a second output signal 64<sub>2</sub> (corresponding to the "mode" signal [462] 46<sub>2</sub> input to the controller 34).--

The paragraph beginning on line 16 of page 22 has been amended as follows:

--Fig. 4 illustrates that each of the light sources 24A-24D receives one or more external signals 46 from a data connection or network 48. Each of the light sources in Fig. 4 also may be adapted to transmit one or more output signals [51] 53 to the network 48. Fig. 4 also illustrates that the network 48 may be coupled to one or more other devices associated with the pool or spa environment (e.g., the heater 50, the circulation and filtration system 54, the blower 52, and one or more remote user interfaces 56) and also may be coupled to the Internet (World Wide Web). It should be appreciated that, according to various embodiments, the network 48 may comprise any one or more of a variety of communication media, including,

but not limited to, wire cable, fiber optic, and wireless links that support one or more of radio frequency (RF), infrared (IR), microwave communication techniques, for example.--

The paragraph beginning on line 11 of page 30 has been amended as follows:

--Fig. 6 also shows that the remote user interface 56, according to one embodiment, may include one or more displays [60] 61 coupled to the processor 58, to indicate to the user a status of one or more parameters associated with the radiation generated by one or more light sources being controlled by the remote user interface 56. One example of a display 60 associated with the remote user interface 56 is discussed further below in connection with Fig. 7.--

The paragraph beginning on line 27 of page 30 has been amended as follows:

--Fig. 7 is a diagram showing an example of a display [60] 61 associated with the remote user interface 56 shown in Fig. 6, according to one embodiment of the invention. In the embodiment of Fig. 7, the display [60] 61 may include an LCD or plasma screen 300. In one aspect of this embodiment, the display screen 300 may be adapted to include touch-sensitive capabilities so as to simulate one or more selectors, thereby allowing the user to control one or more parameters of the radiation generated by one or more light sources via the display screen 300. For example, in one aspect of this embodiment, the display screen 300 may include a touch-sensitive color wheel 302 to display an illumination spectrum and allow a user to select one or more desired colors for illumination of the liquid 22 in the pool or spa 20 by visual inspection of the color wheel. More specifically, in this aspect, the user may place a finger on the desired color displayed in the color wheel, and the remote user interface 56 would control one or more light sources to produce the selected color.--

The paragraph beginning on line 20 of page 34 has been amended as follows:

--Alternatively, according to another aspect of the embodiment illustrated in Fig. 9, a second sensor 92B may be coupled to a computer 96, which, in turn, provides one or more external signals 68 to the remote user interface 56. In turn, the remote user interface 56 provides one or more control signals 64 to one or more light sources 24, based on detection signals received from one or more sensors, either directly or via the computer 96.

Additionally, according to another aspect of this embodiment (as also shown in Fig. 4), the remote user interface 56, via the computer 96 shown in Fig. 9, may be coupled to the Internet 98 such that one or more control signals 64 provided to one or more light sources 24 are derived from information obtained on the Internet. It should be appreciated that a wide variety of configurations are possible in a networked lighting system for the illumination of liquids, according to various embodiments of the invention, and that such configurations are not limited to the specific examples discussed above.--

The paragraph beginning on line 12 of page 45 has been amended as follows:

--Fig. 16B is a diagram showing a more detailed view of a pin 76 of the light fixture 90 shown in Fig. 16, according to one embodiment of the invention. **[In Fig. 16B, all dimensions are indicated in inches.] According to one aspect of this embodiment, exemplary values for various indicated pin dimensions (in inches) are as follows: A=0.059, B=0.067, D= 0.005, E=0.020, F=0.100, G=0.115, H=0.588, I=0.836, J=0.848, K=0.878, L=0.891, M=1.046, N=0.090, O=0.065, P=0.158. Also, an exemplary value for the angle C indicated in Fig. 16B is 45 degrees.** Fig. 16B illustrates in greater detail that the pin 76 may include an indented groove perturbation 84 formed continuously around the pin. Fig. 16B also illustrates that, according to one aspect of this embodiment, the pin 76 may include a widened portion 87 that passes through the rubber grommet 88 and connects to a narrower portion **[89] 91** of the pin to which electrical connections may be made.--

The paragraph beginning on line 19 of page 45 has been amended as follows:

--Fig. 17 is a diagram showing yet another embodiment of the invention directed to a liquid illumination apparatus [150] 151. In one aspect of this embodiment, the apparatus 150 may include a housing 44 having a variety of ring-like shapes including, but not limited to, circular, triangular, square, octagonal, or any other geometric shape. In the embodiment specifically illustrated in Fig. 17, the housing 44 of the apparatus 150 is shaped essentially as a donut, and is designed to allow the flow of liquid 22 through the center and/or around an outer perimeter of the apparatus 150. Similar to the light sources discussed in the previous figures, the liquid illumination apparatus 150 may include one or more light sources 24, which further may include one or more LEDs 32. In the apparatus 150, radiation generated by the light source 24 is coupled to the flow of the liquid 22 as the liquid passes through and/or around the apparatus 150. In particular, in one aspect of this embodiment, one or more LEDs 32 are arranged to direct radiation into the flow of the liquid 22 to illuminate the liquid. As discussed above in connection with other embodiments, the apparatus 150 may include a local user interface 43, and may be adapted to receive one or more external signals 46 and a power signal 47. Additionally, according to other aspects, the apparatus 150 may include one or more controllers and one or more storage devices, as discussed above in connection with Fig. 2.--

The paragraph beginning on line 4 of page 46 has been amended as follows:

--Fig. 18 is a diagram illustrating yet another embodiment of a liquid illumination apparatus 152 according to the present invention. In one aspect of this embodiment, the apparatus 152 may be adapted for use as a sprinkler which couples radiation generated by one or more light sources 24 into a stream of liquid 22 emanating from the apparatus 152. In this aspect, the apparatus 152 couples the radiation generated by the light sources 24 with the stream of the liquid 22 to provide colored effects, for example while watering a lawn, or in a decorative setting such as, but not limited to, a pool, spa, or water fountain. While not shown exclusively in Fig. 18, the apparatus 152 similarly may be adapted as the apparatus [150] 151

shown in Fig. 17 to include a local user interface 43, and to receive one or more external signals 46 and a power signal 47 for operation of the apparatus 152.--

The paragraph beginning on line 15 of page 46 has been amended as follows:

--Fig. 19 is a diagram illustrating yet another embodiment of the invention directed to a water faucet 154 adapted to illuminate a stream or liquid 22 (e.g., water) with radiation generated by one or more light sources 24 supported by the faucet 154. In one aspect of this embodiment, the light source 24 includes two or more differently colored LEDs, to provide illumination of the stream of liquid 22 with a variety of variable color lighting effects. In one aspect of this embodiment, the light source 24 includes a plurality of red, blue and green LEDs, as discussed above in connection with Fig. 2. In yet another aspect of this embodiment, as discussed above in connection with Fig. 8, the light source 24 supported by the faucet 154 may be responsive to one or more detection signals output by one or more sensors that are employed to monitor one or more conditions related to the stream of liquid 22 exiting the faucet 154. For example, in one embodiment, a temperature of the liquid 22 flowing from the faucet 154 may be monitored by a sensor 92, and an output 94 of the sensor may be employed to control the light source 24, such that the radiation generated by the light source 24 varies with changes in the monitored temperature of the liquid 22.--